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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/580,704	05/30/2000	George Peter Lomonossoff	DOW-04647	2167

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EXAMINER	
SANDALS, WILLIAM O	
ART UNIT	PAPER NUMBER
1636	

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17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/580,704	Applicant(s) Lomonossoff et al.
	Examiner William Sandals	Art Unit 1636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Dec 27, 2002*.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-16* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *14*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Status of the Claims

1. Claims 1-16 are pending.

2. Claims 1, 2, 7-10, 15 and 16 stand rejected under 35 USC 102(e) as being anticipated over US 5,316,931 (Donson et al.).

3. Claims 1-3, 6-11 and 14-16 stand rejected under 35 USC 102(e)USC 102(e) as being anticipated over US Application No. 07/600,244 (Grill et al.).

4. Claims 1-3, 6-11 and 14-16 stand rejected under 35 USC 102(e)USC 103(a) as being obvious over US 5,316,931 (Donson et al.) in view of US Application No. 07/600,244 (Grill et al.) and US 5,437,976 (Utermohlen et al.).

5. Claims 9-16 stand rejected under the judicially created doctrine of double patenting as being unpatentable over claims 1-9 of US 5,874,087 and claims 22-28 of US 5,958,422. A statement in Paper No. 16, filed December 27, 2002 indicates that a terminal disclaimer will be filed upon allowance of the claims. No rebuttal arguments have been presented.

6. The declaration under 37 CFR 1.132 filed on December 27, 2002 by Lada Rasochova, Ph.D. is insufficient to overcome the rejection of claims 1-3, 6-11 and 14-16 based upon US Application No. 07/600,244 (Grill et al.) as set forth in the last Office action as explained in the body of the rejection of the claims below.

Claim Objections

7. Claims 4-6, 9 and 12-14 are objected to because of the following informalities: Each of the claims 4-6, 9 and 12-14 has been amended. The amended claims should be amended to insert the word "Amended" before each of claims 4-6, 9 and 12-14. Appropriate correction is required.

Response to Arguments

8. The following rejections of record are repeated below, along with responses to arguments set forth in Paper No. 16 and the declaration of Dr. Rasochova.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 9-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U. S. Patent No. 5,874,087. Although the conflicting claims are not identical, they are not patentably distinct from each other because the

instant application claims a genus of a method of producing a modified plant virus while claims 1-9 of U. S. Patent No. 5,874,087 are drawn to a species of a method of producing a modified plant virus, and the species makes the genus obvious.

11. Claims 9-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 22-28 of U. S. Patent No. 5,958,422. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant application claims a genus of a method of producing a modified plant virus while claims 22-28 of U. S. Patent No. 5,958,422 are drawn to a species of a method of producing a modified plant virus, and the species makes the genus obvious.

12. Claims 9-16 stand rejected under the judicially created doctrine of double patenting as being unpatentable over claims 1-9 of US 5,874,087 and claims 22-28 of US 5,958,422. A statement in Paper No. 16, filed December 27, 2002 indicates that a terminal disclaimer will be filed upon allowance of the claims. The rejection was traversed, and no rebuttal arguments were presented.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

14. Claims 1, 2, 7-10, 15 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by US 5,316, 931 (Donson et al.).

Donson et al. teach (see especially the abstract and columns 5, 6, 8, 9, 11, 12 and 14) a modified plant RNA viral composition and a method of infecting a plant with the modified plant RNA virus comprising modified viral nucleic acid which encodes a foreign peptide. The foreign peptide is inserted in a sequence coding for a viral coat protein, where there is no significant interference with the capacity of the modified virus to assemble as recited in instant claims 1 (see Donson et al. at the summary). The peptide may be an antigen (see column 14, lines 59-68), and the virus may be a comovirus (an RNA virus) (see the list of viruses which may be used in the teachings of Donson et al. at column 9, lines 14-27). Also taught was a method of infecting a plant or plant cell with the modified virus, and harvesting the virus (see columns 14-15).

15. The above rejection has been rewritten to more completely discuss the relevance of the teachings of Donson et al. The grounds of rejection have not changed, since the rejection is made over the entire US 5,316,931 patent.

16. In response to the rejection of claims 1, 2, 7-10, 15 and 16 which stand rejected under 35 U.S.C. 102(e) as being anticipated by US 5,316, 931 (Donson et al.), applicants argue in Paper

No. 16, at the last paragraph of page 2 bridging to the top of page 3, that the 88 page document cited in the previous office action as the CIP parent document of Donson et al., US Application No. 07/600,244, was cited in the PTO form 892 as the specification of US Application No. 07/600,881, which raises a question as to the identity of the cited specification. The cited specification is indeed the specification of US Application No. 07/600,244, which is the CIP parent of US 5,316,931. US Application No. 07/600,244 is a file wrapper continuation of US Application No. 07/310,881. The relationship of these US Applications is correctly indicated on the face of the US 5,316,931 (Donson et al.) patent. The examiner appreciates the notation of this obvious error. A corrected PTO 892 form is included with this office action.

17. Applicants arguments presented in Paper No. 10 assert that the priority date of the instant application is April 2, 1992, and US 5,316, 931 (Donson et al.) has a filing date of July 31, 1992, making the filing date of US 5,316, 931 (Donson et al.) ineffective for prior art purposes without relying on the teachings of the CIP parent document of US 5,316, 931 (Donson et al.), US Application No. 07/600,244.

The parent CIP document Appl. No. 07/600,244 can be relied upon because support for the essential subject matter cited in the rejection above is found in Appl. No. 07/600,244. Appl. No. 07/600,244 recites at pages 12, 28, 34, 36, 39 and examples 17 and 28 for instance, the insertion of a foreign peptide in the coat protein to produce a recombinant plant virus, such a cow pea mosaic virus, infecting a plant tissue with the recombinant virus, expressing a mammalian virus protein inserted into the plant virus coat protein. The mammalian virus may be a

Rhinovirus, for example. The foreign peptide may be used to produce an immune response. Thus the priority date of US 5,316, 931 (Donson et al.) for the purposes of making the above rejection is the filing date of the parent CIP document US Application No. 07/600,244, October 22, 1990. Therefore, the argument is not found convincing.

18. Claims 1-3, 6-11 and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by US Application No. 07/600,244 (Grill et al.).

Grill et al. teach (see especially the abstract and pages 27, 28,34, 36-40, 53, examples 17, 27, 28 and 50 and the claims) an infective virus, a host infected with the virus and a process of production of a desired product (see page 6, lines 24-30, page 8, line 26 bridging to page 9, line 23). The virus is a RNA virus which is modified in the coat protein (see page 11, line 27 bridging to page 12, line 22, citing many of the suitable viruses for use in the invention). A plant infected with a modified virus comprising modified viral nucleic acid which encoded a foreign peptide which was inserted in sequence coding for a viral coat protein (see pages 20-22), where there was no significant interference with the capacity of the modified virus to assemble. The peptide may be from a rhinovirus (which may be an antigen), and the virus may be a comovirus (an RNA virus) (there are numerous examples of plant RNA viruses throughout the teachings of Grill et al., especially pages 20-23, 24-25, examples 1-4, 14-16 and 49-53). Also taught was a method of infecting a plant or plant cell with the modified virus, expressing the modified coat protein in the host cell and producing modified virus (see especially pages 28-31, which

discusses the insertion of a sequence encoding a foreign peptide into the coat protein of a plant virus adjacent to the promoter of the coat protein).

Any protein may be used as an antigen. This property of a protein is inherent. (see Harlow and Lane, pages 75-77).

19. The above rejection has been rewritten to more completely discuss the relevance of the teachings of US Application No. 07/600,244 (Grill et al.). The grounds of rejection have not changed, since the rejection is made over the entire US Application No. 07/600,244 (Grill et al.).

20. In response to the rejection of claims 1-3, 6-11 and 14-16 which stand rejected under 35 U.S.C. 102(e) as being anticipated by US Application No. 07/600,244 (Grill et al.) applicant argues in Paper No. 16 at page 3, that the teachings of Grill et al. have been misinterpreted by this examiner as set forth in the declaration of Lada Rasochova, Ph.D., making the rejection above, ineffective.

The declaration of Dr. Rasochova focuses upon selected sections of the specification to make the argument that the selected sections do not teach the entire set of limitations of the claims. This is piecemeal analysis, and fails to take into account the sense of the specification as a whole. The declaration considers specific limitations of the claims without addressing the broad scope of the claimed subject matter.

At the summary of Grill et al., page 6 lines 11-13, it states "[t]he invention further relates to viruses containing viral vectors which are transmissible, i.e. infective." This is a central teaching of the invention of Grill et al. The lack of infectivity of the virus in any recitation of the specification of Grill et al. is merely a feature of one of the aspects of the invention of Grill et al. Therefore, any discussion regarding non-infectivity of a viral construct must be taken in this context.

21. The declaration at page 1, bridging to page 2 in item "4." states that the teachings of the example 17 of Grill et al. teaches equine encephalitis virus, and does not teach plant viral genomic nucleic acid, and that the coat protein of the virus is may be deleted, and that the recombinant virus of example 17 is not infective.

In regards the argument that example 17 teaches equine encephalitis virus, the teachings of the example are cited in the instant rejection because it teaches the particulars of the insertion of foreign nucleic acids into the region of the virus which encodes the coat protein.

Insertion of sequences encoding foreign peptides into the coat protein of plant viruses are found at many places in the teachings of Grill et al. (see especially pages 28 (bottom), bridging to page 30, pages 34-40 and examples 1-4 and 49-53).

In regards the argument that example 17 teaches the deletion of the coat protein, Grill et al. teach at example 17, the complete or partial replacement of the coat protein coding sequences. At example 17, page 54, lines 6-12, Grill et al. teach the partial deletion of the coat protein. It does not state in this cited section of example 17 that the equine encephalitis virus is non-

infective, while Grill et al. are careful to note in the other sections of example 17 that the virus with the completely deleted coat protein coding region is non-infective. Example 17 concludes at lines 13-16 that the equine encephalitis virus which has the coat protein deleted will be non-infective under natural conditions. This does not negative the intent of the invention of Grill et al. that the viruses of the invention can infect host cells.

22. The declaration of Dr. Rasochova at item #5 points out that example 20 teaches the insertion of a tyrosinase gene adjacent to the equine encephalitis virus coat protein of example 17, making the point again that this example does not deal with plants.

True. As mentioned above, the teachings of example 17 and subsequent related examples are relevant in that they teach the specifics of insertion of a sequence encoding a foreign peptide into the coat protein sequence of a virus.

23. The declaration of Dr. Rasochova at item #6 and item #7, discusses examples 21 and 28. The declaration points out that these examples use yeast host cells, or mammalian host cells which are not plant host cells.

True.

At page 8 of Grill et al., lines 26-31, plants are listed as one of the hosts for infection by the modified viruses of the invention.

At page 9, lines 8-14 of Grill et al., plant cells and plant tissues are explained as desirable host cells for the modified viruses of Grill et al.

Example 28 is cited because it demonstrates that Grill et al. contemplated the expression of rhinovirus proteins in the practice of the method.

24. At items #8 and #9, the declaration states that the list of viruses at page 12 of the specification of Grill et al. sets forth a list of potentially suitable viruses. The argument is set forward that a "suitable virus" is defined by the quotation from page 10 above as follows: "[t]he present invention provides for the infection of a host, such as a prokaryotic or eukaryotic organism, cell or tissue, by a virus which has been modified so that the virus is transmissible but the viral nucleic acid is not infective."

At page 10, lines 14-18 of Grill et al., it states that "[t]he present invention provides for the **infection** (emphasis added) of a host, such as a prokaryotic or eukaryotic organism, cell or tissue, by a virus which has been modified so that the virus is transmissible but the viral nucleic acid is not infective." It should be noted that this quoted section recites that host cells are infected with the modified virus, which is consistent with the teachings recited in the rejection below, and in the response above. As stated above, this passage clearly indicates that the virus infects the host. Since the language of the section quoted by Dr. Lada Rasochova is clear that the virus infects the host cell, it does not follow that it is not infective. Therefore, the argument is not consistent with the language cited in the quotation, and is not found convincing.

25. Item #9 asserts that Grill et al. at page 28, in the context of page 27 teaches the deletion of the coat protein or the alteration of the coat protein such that it ensures that the "first sequence 'is not capable of transmission'", or that the coat sequence is not the native sequence of the virus.

Grill et al. at page 28 teach an example of a chimeric peptide which may be inserted into a plant virus. At page 29, Grill et al. teach that this chimeric peptide may be inserted adjacent to the promoter for the coat protein of the plant virus. The teachings are therefore consistent with the rejection of the claims and the argument is not found convincing.

26. The declaration of Dr. Lada Rasochova states at item #10 that there is no teaching regarding inserting sequences into coding sequences for plant viral coat proteins at pages 34 and 36 of the specification of Grill et al.

Coat proteins with inserted sequences are indeed taught at page 34, lines 1-10 and page 36 refers to a viral vector which has been modified in the coat protein. However, this observation is not pertinent to the main teachings of pages 34 and 36-40, where the section teaches the infection of a plant with the modified virus (see especially page 38).

27. The declaration of Dr. Lada Rasochova states at item #11 that the teachings of Grill et al. at page 39 merely lists the viruses with which agro-infection has been accomplished.

True.

The list of plant viruses on page 39 provides a list of viruses which have been successfully used for the infection of a plant. The teachings of Grill et al. extend these prior art teachings to the infection of a plant with a modified plant RNA virus, and does not negative the invention of Grill et al. as it pertains to the instant rejection of claims 1-16.

28. The declaration of Dr. Lada Rasochova states at item #12 that the teachings of examples 1-3 of Grill et al. do not teach the insertion of mammalian viral antigen coding sequences into the coat protein of a plant virus.

True.

This piecemeal analysis does nothing to negative the pertinence of the teachings of Grill et al. in the rejection of claims 1-16 since only dependent claims 4-6 and 12-14 are limited to a mammalian viral antigen.

Claim Rejections - 35 USC § 103

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

30. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,316, 931 (Donson et al.) in view of US Application No. 07/600,244 (Grill et al.) and US 5,437,976 (Utermohlen).

The claims are drawn to a plant infected with a modified virus comprising modified viral nucleic acid which encoded a foreign peptide which was inserted in sequence coding for a viral coat protein, where there was no significant interference with the capacity of the modified virus to assemble. The peptide may be an antigen, and the virus may be a comovirus (an RNA virus).

Also claimed was a method of infecting a plant or plant cell with the modified virus. The antigen may be from a foot and mouth disease virus, a HIV virus or a human rhinovirus.

Donson et al. teach the invention as described above in the rejection under 35 USC 102.

Donson et al. did not teach that the antigen was a viral antigen which may be from a foot and mouth disease virus, a HIV virus or a human rhinovirus..

Grill et al. teach (see especially the abstract and pages 27, 28,34, 36-40, 53, examples 17, 27, 28 and 50 and the claims) an infective virus, a host infected with the virus and a process of production of a desired product (see page 6, lines 24-30, page 8, line 26 bridging to page 9, line 23). The virus is a RNA virus which is modified in the coat protein (see page 11, line 27 bridging to page 12, line 22, citing many of the suitable viruses for use in the invention). A plant infected with a modified virus comprising modified viral nucleic acid which encoded a foreign peptide which was inserted in sequence coding for a viral coat protein (see pages 20-22), where there was no significant interference with the capacity of the modified virus to assemble. The peptide may be from a rhinovirus (which may be an antigen), and the virus may be a comovirus (an RNA virus) (there are numerous examples of plant RNA viruses throughout the teachings of Grill et al., especially pages 20-23, 24-25, examples 1-4, 14-16 and 49-53). Also taught was a method of infecting a plant or plant cell with the modified virus, expressing the modified coat protein in the host cell and producing modified virus (see especially pages 28-31, which discusses the insertion of a sequence encoding a foreign peptide into the coat protein of a plant virus adjacent to the promoter of the coat protein).

Utermohlen teach (see especially column 4, lines 8-25) the selection of nucleotide sequences which are useful for the development of vaccines. The list of obvious sources for this selection of nucleotide sequences is found in Table 1, which includes foot and mouth disease virus, HIV virus and human rhinovirus.

Each of Donson et al., Grill et al. and Utermohlen teach the expression of viral RNA's useful for the development of vaccines, making the combination of the references obvious to one of ordinary skill in the art at the time the instant invention was made. One of ordinary skill in the art would have been motivated to modify the viral vector with a foreign peptide inserted into the coat protein of Donson et al. with the teachings of Grill et al. who also teach a viral vector with a foreign peptide inserted into the coat protein, to produce the instant claimed invention for the expected benefit of the production of a foreign viral protein inserted into the coat protein of a plant virus which may then be used for the development of an immune response. Grill et al. also teach the expression of the foreign peptides in a variety of viral vectors, including plant and animal viruses for the expected benefit of improved commercial uses such as making antigens for enhanced immune responses in animals. One of ordinary skill in the art would have been motivated to modify the viral vector with a foreign peptide inserted into the coat protein of Donson et al. with the teachings of Utermohlen because Utermohlen taught that there were many desirable viruses to use to develop vaccines, where both Donson et al. and Grill et al. teach the applicability of their respective inventions to the development of vaccines. The desirable viruses of Utermohlen et al. are set forth in Table 1, which lists obvious candidate antigenic protein

sources, including HIV virus, human rhinovirus or Foot and mouth disease virus. Thus one of ordinary skill in the art would have been motivated to modify the recombinant plant viruses of Donson et al. which are useful in making of vaccines with the desirable and obvious nucleic acids from a collection of obvious viruses provided in the table of Utermohlen which are useful in providing nucleic acids for the development of vaccines. Further, a person of ordinary skill in the art would have had a reasonable expectation of success in the producing the instant claimed invention given the teachings of Donson et al., Grill et al. and Utermohlen that demonstrates the expression of a foreign peptide from a sequence inserted into part of, or all of the coat protein sequence of a plant RNA virus.

31. In response to the rejection of claims 1, 2, 7-10, 15 and 16 which stand rejected under 35 U.S.C. 102(e) as being anticipated by US 5,316, 931 (Donson et al.), applicants argue in Paper No. 16, at page 3, that the priority date of the rejection under 35 USC 102 over US 5,316, 931 (Donson et al.), filed July 31, 1992, which relies upon the CIP of US Application No. 07/600,244 (Grill et al.), filed October 22, 1990, is improper, thereby making the instant rejection under 35 USC 103 improper also.

As stated above in the response to arguments to the rejection under 35 USC 102 over US 5,316, 931 (Donson et al.), it has been established that US 5,316, 931 (Donson et al.) is a CIP of US Application No. 07/600,244 (Grill et al.), and that Grill et al. supports the relevant subject matter of Donson et al., making the argument moot.

Conclusion

32. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

33. Certain papers related to this application are ***welcomed*** to be submitted to Art Unit 1636 by facsimile transmission. The FAX numbers are (703) 308-4242 and 305-3014. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 CFR 1.6(d)). NOTE: If applicant *does* submit a paper by FAX, the original copy should be retained by the applicant or applicant's representative, and the FAX receipt from your FAX machine is proof of delivery. NO DUPLICATE COPIES SHOULD BE SUBMITTED, so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning this communication or earlier communications should be directed to Dr. William Sandals whose telephone number is (703) 305-1982. The examiner normally can be reached Monday through Thursday from 8:30 AM to 7:00 PM, EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Remy Yucel, Ph.D. can be reached at (703) 305-1998.

Any inquiry of a general nature or relating to the status of this application should be directed to the Tech Center customer service center at telephone number (703) 308-0198.

William Sandals, Ph.D.
Examiner
March 15, 2003

REMY YUCEL, PH.D
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600